ORDER: 8400.10

BULLETIN TYPE: Flight Standards Handbook Bulletin for Air Transportation (HBAT)

BULLETIN NUMBER: HBAT 04-04

BULLETIN TITLE: Incorporating Standard Operating Procedures During Taxi Operations in Training Programs, the Use of SOPs During Taxi Operations, and Special Emphasis Inspection Items for Runway Incursion Surveillance

EFFECTIVE DATE: 05-06-04

TRACKING NUMBER: N/A

APPLICABILITY:

M/M	ATA Code	14 CFR	PTRS
N/A	N/A	61, 91, 121, 129, 135	1307, 1626

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1. PURPOSE. This bulletin:

A. Informs aviation safety inspectors (ASI) that the following two advisory circulars (AC) now include recommended standard operating procedures (SOP) for flightcrews during taxi operations:

- AC 91-73, Part 91 and Part 135 Single-Pilot Procedures during Taxi Operations, as amended
- AC 120-74, Parts 91, 121, 125, and 135 Flightcrew Procedures during Taxi Operations, as amended

B. Informs the aviation industry of the Federal Aviation Administration's (FAA) policy regarding the incorporation of those SOPs into training programs and the use of those SOPs during taxi operations.

C. Notifies principal operations inspectors (POI) of Title 14 of the Code of Federal Regulations (14 CFR) parts 121 and 135 operators to conduct a special emphasis surveillance inspection within 60 days of the effective date of this bulletin to identify those operators under 14 CFR parts 121 and 135 that

have incorporated guidance contained in ACs 91-73 and 120-74, as appropriate, into their training programs.

D. Notifies part 129 POIs to provide a copy of this bulletin and AC 120-74 to part 129 air carriers so their pilots are aware of the SOPs when operating at U.S. airports.

E. Provides updated guidance to inspectors regarding air carrier training in the attached pages of FAA Order 8400.10, Air Transportation Operations Inspector's Handbook. Change bars in the columns indicate amendments to the handbook.

2. BACKGROUND.

A. Eliminating Runway Incursions – Top National Transportation Safety Board (NTSB) and FAA Safety Priority. One of the NTSB's and FAA's top safety priorities is the reduction of accidents and incidents caused by runway incursions. The pervasiveness of the causal factors of runway incursions requires everyone involved in aviation to participate in the search for solutions. The Joint Safety Analysis Teams (JSAT) and Joint Safety Implementation Teams (JSIT) established under the Commercial Aviation Safety Team (CAST) identified SOPs as a "low cost, near term" initiative in reducing the U.S. commercial aviation accident rate.

B. Collaborative Effort and Industry Commitment to Voluntary Implementation. In a collaborative effort, the Flight Standards Service and the Office of Runway and Operational Safety joined with industry representatives from the Air Line Pilots Association, Allied Pilots Association, Air Transport Association, Regional Airline Association, National Business Aircraft Association, Aircraft Owners and Pilots Association, and several air carriers, to develop SOPs for pilots during taxi operations.

C. Pilot Deviation Runway Incursions Caused by Loss of Situational Awareness. Analysis of existing information conducted by the MITRE Center for Advanced Aviation System Development, the Runway Incursion JSAT, and the Volpe National Transportation Systems Center, has determined some of the causal factors of runway incursions. The overwhelming category of pilot error can be classified as a loss of "situational awareness." The major breakdowns in operational performance that result in runway incursions by pilots at towered airports are pilots who:

(1) Enter a runway or cross the hold short line after acknowledging hold short instructions; or

(2) Take off without a clearance after acknowledging taxi into "position and hold."

D. SOPs Decrease Probability of Human Factors Error. SOPs provide a structure that helps decrease the probability of human error and capture errors – their own, those of their crewmembers, pilots of other aircraft, and air traffic controllers – before they result in a runway incursion. By applying SOPs to taxi operations, pilots can reduce the probability of a runway incursion by increasing and maintaining situational awareness.

3. FAA POLICY. The FAA strongly recommends the following to promote runway safety:

A. That training in runway safety and the specific SOPs contained in ACs 91-73 and 120-74, as amended, be incorporated in ground training and flight training conducted by air carriers under parts 121 and 135; by training centers under part 142; by pilot schools under part 141; and by all other persons conducting training and evaluation under parts 61 and 91.

B. That those SOPs be implemented and carefully followed during taxi operations.

4. ACTION. The information contained in this bulletin must be given widest distribution to the aviation industry. Accordingly, all Flight Standard District Office (FSDO), certificate holding district office (CHDO), certificate management office (CMO), and International Field Office (IFO) managers and supervisors will have the appropriate ASI distribute this bulletin under separate letter to parts 121, 129, and 135 aviation entities for whom they have oversight responsibilities. Inspectors should use the updated guidance in the attached handbook pages when conducting training and checking activities.

A. FSDO/CMO/IFO managers shall have the appropriate POI notify his/her appropriate aviation entity of the information contained in this bulletin and the availability of ACs 91-73 and 120-74. POIs may provide the director of safety or director of operations a copy of this bulletin, or refer them to the following public Web site: http://www.faa.gov/avr/afs/hbat/hbat0404.pdf. ACs may be obtained free of charge at the following public Web site:

http://www.faa.gov. Click on Regulations and Policies; click on Guidance; click on Advisory Circulars.

B. Non-ATOS Operators.

(1) POIs will document distribution of this bulletin to air carriers using the Program Tracking And Reporting Subsystem (PTRS) as follows:

(a) Use PTRS code 1307, Convey Non-Reg. Info.

(b) Enter "HBAT0404" in the "National Use" field (without the quotes).

(c) Once the above information has been provided to the air carrier, close out the PTRS.

(2) Special Emphasis Inspection For Runway Incursion. Under the FAA's Flight Plan 2004–2008 objective to reduce the risk of runway incursions, the Associate Administrator for Regulation and Certification (AVR), through its FY 2004 Performance Plan, tasked the Air Transportation Division, AFS-200, with the responsibility to assess the incorporation of certain special emphasis items into parts 121 and 135 training programs. The FAA will use the data collected as a result of this action to analyze the relationship of the number of pilots trained on the published guidance to the number of runway incursions. This analysis will also assess the effectiveness of the FAA's emphasis on runway incursions.

(a) Training Program Inspection. POIs will conduct a special emphasis inspection, within 60 days of receipt of this bulletin, of part 121 and 135 operators in accordance with Order 8400.10, volume 6, chapter 2, section 17, Training Program Inspections, to determine if those operators have incorporated the guidance from ACs 91-73 and 120-74, as amended, into their training programs. Specifically, determine if the training program incorporates:

(i) Use of aircraft lighting during taxi and takeoff operations; and

(ii) Readback/hearback on Hold Short, Position and Hold, and Runway Crossings.

NOTE: Pilots should not merely acknowledge the ATC instructions or clearances to enter a specific runway, hold short of a runway, and taxi into "position and hold" by using their call sign and saying "Roger" or "Wilco." Instead, they should read back the entire instruction or clearance including the runway designator.

(b) Documenting Inspection Activity in PTRS. The special emphasis inspection shall be entered into the PTRS as follows:

(i) Use activity code 1626;

(ii) Enter the characters "RISOP" (without the quotes) in the "National Use" field.

(iii) Enter in Section IV the following:

- Primary Area "A"
- Key Word "403"
- Opinion Code "I"
- Enter in the "Comment Text" section the numbers "1. Use of aircraft lighting during taxi and takeoff operations," and "2. Readback/hearback on Hold Short, Position and Hold, and Runway Crossings." Then enter either "Yes" or "No" for each to indicate the compliance status. For example: A/403/I: 1. Yes; 2. No

(c) If the results of the inspection indicate the air carrier has not incorporated the information contained in either AC 91-73 or AC 120-74, as applicable, the inspector shall advise the air carrier of the "FAA's policy" and recommend they incorporate the information into their training programs, and emphasize the use of SOPs contained in the ACs during taxi operations.

C. ATOS Air Carriers.

(1) POIs with oversight responsibility for air carriers that provide transportation for passengers and/or cargo shall provide their operators with a copy of this bulletin.

(2) POIs must assess the air carrier's response to the recommendations. An air carrier's failure to implement these

recommendations into their existing program could result in potential increased risk levels in several areas.

(3) POIs must determine if additional surveillance is required or further action is necessary to address the potential increased risk levels. Possible additional actions may include retargeting the comprehensive surveillance plan (CSP) to include accomplishing appropriate safety attribute inspections (SAI) or element performance inspections (EPI), convening a System Analysis Team (SAT), or re-evaluating air carrier approvals or programs.

(4) Documentation of Initial Distribution of Bulletin. POIs will make an ATOS entry using the "Other Observation DOR" functionality to record the initial distribution of this bulletin. The POI will access the "*Create DOR*" option on his/her ATOS Homepage, select the "Other Observation" tab, and:

(a) Select System: 4.0 Personnel Training and Qualifications.

(b) Select Sub-system 4.2 Training Program.

(c) Select the appropriate air carrier from the drop-down menu.

(d) Select "1307" from the "PTRS Activity Number" drop down menu.

(e) Enter the date the activity was started and completed.

(f) Enter the location the activity was performed.

(g) Enter the characters "HBAT0404" (without the quotes) in the "Local/Regional/National Use" field.

(h) Use the "Comments" field to record any comments reflecting interaction with the air carrier and the air carrier's response to the recommendation.

(i) Input any actions taken in the "Reporting Inspector Action Taken" field.

(j) Select the "Save" button after all entries have been made.

(5) Special Emphasis Inspection For Runway Incursion. Under the FAA's Flight Plan 2004–2008 objective to reduce the risk of runway incursions, the Associate Administrator for Regulation and Certification (AVR), through its FY 2004 Performance Plan, tasked the Air Transportation Division, AFS-200, with the responsibility to assess the incorporation of certain special emphasis items into part 121 training programs. The FAA will use the data collected as a result of this action to analyze the relationship of the number of pilots trained on the published guidance to the number of runway incursions. This analysis will also assess the effectiveness of the FAA's emphasis on runway incursions.

(a) Training Program Inspection. POIs will conduct a special emphasis inspection, within 60 days of receipt of this bulletin, of part 121 air carriers in accordance with Order 8400.10, volume 6, chapter 2, section 17, Training Program Inspections, to determine if those air carriers' training programs have incorporated the guidance from ACs 91-73 and 120-74. Specifically, determine if the training program incorporates:

(i) Use of aircraft lighting during taxi and takeoff operations.

(ii) Readback/hearback on Hold Short, Position and Hold, and Runway Crossings.

(b) ATOS Reporting – Special Emphasis Inspection. POIs will make an ATOS entry using the "Other Observation DOR" functionality to record the initial distribution of this bulletin. The POI will access the "*Create DOR*" option on their ATOS Homepage, select the "Other Observation" tab, and:

(i) Select System: 4.0 Personnel Training and Qualifications.

(ii) Select Sub-system 4.2 Training Program.

(iii) Select the appropriate air carrier from the drop-down menu.

(iv) Select "1626" from the "PTRS Activity Number" drop-down menu.

(v) Enter the date the activity was started and completed.

(vi) Enter the location the activity was performed.

(vii) Enter the characters "RISOP" (without the quotes) in the "Local/Regional/National Use" field.

(viii) Use the "Comments" field to record any comments reflecting interaction with the air carrier.

(ix) Input any actions taken in the "Reporting Inspector Action Taken" field.

(x) Select the "Save" button after all entries have been made.

(c) If the results of the surveillance inspection indicate the air carrier has not incorporated the information contained in AC 120-74, as amended, the inspector shall advise the air carrier of the "FAA's policy," recommend they incorporate the information into their training programs, and emphasize the use of SOPs contained in the AC during taxi operations.

5. LOCATION. The foregoing guidance will be incorporated into Order 8400.10, Air Transportation Operations Inspector's Handbook, volume 3, chapter 2, section 3, paragraph 367, 379, and Table 3.2.3.2; section 6, Table 3.2.6.4; section 7, figure 3.2.7.1. and figure 3.2.7.3; section 10, paragraph 605 and 607; section 11, paragraph 617; volume 3, chapter 3, section 3, paragraph 715; and volume 3, chapter 4, Advanced Qualification Program. Questions concerning this bulletin should be directed to the Air Carrier Operations Branch, AFS-220, at (202) 267-3749.

/s/ Matthew Schack
Manager, Air Transportation Division

ATTACHMENTS

SECTION 3. FLIGHTCREW BASIC INDOCTRINATION CURRICULUM SEGMENTS

361. GENERAL. This section specifies the objectives and content of basic indoctrination curriculum segments. This training is required for all flight crewmembers who are enrolled in an initial new-hire category of training. Basic indoctrination is normally the first curriculum segment of instruction conducted for newly-hired flight crewmembers. It serves as the initial introduction for the new-hire employee to the operator and, in many cases, to the operational requirements of Part 121 and/or Part 135.

363. OBJECTIVE OF BASIC INDOCTRINATION. The objective of basic indoctrination training is to introduce the new-hire flight crewmember to the operator and its manner of conducting operations in air transportation. It specifically acquaints the student with the operator's policies, procedures, forms, organizational and administrative practices, and ensures the student has acquired basic airman knowledge. The flight crewmember basic indoctrination curriculum segment consists of training modules which contain information applicable to the student's specific duty position. Two general subject areas are required during basic indoctrination training. These subject areas are "operator-specific" and "airman-specific" training. These two areas serve to acquaint the student with the operator's means of regulatory compliance and to ensure that basic knowledge has been acquired by the student before entering aircraft ground and flight training. These two areas are not always mutually exclusive and in many cases may be covered in the same training module.

365. OPERATOR-SPECIFIC INDOCTRINATION TRAINING.

A. The first subject area, "operator-specific," must include training modules in at least the following:

- Duties and responsibilities of flight crewmembers
- Appropriate provisions of the Federal Aviation Regulations
- Contents of the certificate holder's operating certificate and operations specifications

B. Operator-specific training modules should also include information about the company which the student needs in order to properly perform his duties as an employee of the operator. This information may include such items as the operator's history, organization, policies, scope of operation, administrative procedures, employee rules of conduct, compensation, benefits, and contracts.

367. AIRMAN-SPECIFIC INDOCTRINATION TRAINING.

A. The second subject area, "airman-specific," must address appropriate portions of the certificate holder's operating manual. Airman-specific training should also include other pertinent information that ensures the student will be prepared for aircraft ground and flight training. Airman-specific indoctrination training should include elements which show that training applicable to the duty position will be given on the general principles and concepts of the following:

- Flight control (This includes dispatch or flight release for Part 121 operators and flight-locating procedures for Part 135 operators.)
- Weight and balance
- Aircraft performance and airport analysis
- Meteorology
- Navigation
- Airspace and ATC procedures
- En route and terminal area charting and flight planning
- Instrument procedures
- Airport Ground Operational Safety (AC 120-74 and AC 91-73, as amended)

B. Airman-specific indoctrination training should address the kind of operation and the general capabilities of the operator's aircraft. For example, a Part 121 operator using transport category turbojet aircraft should include high altitude meteorological information (for example, the jetstream) in the meteorology training module. A Part 135 operator, using single-engine reciprocating-powered aircraft, will not normally need to address high altitude meteorology

in this module. It is important to note that airman-specific training is not "aircraft-specific" and is intended to ensure the student has a fundamental understanding of certain generalized areas before progressing into aircraft ground and flight training for a specific aircraft.

C. Training in runway safety and the specific Standard Operating Procedures (SOP) contained in ACs 120-74, Parts 91, 121, 125, and 135 Flightcrew Procedures during Taxi Operations, 91-73, Part 91 and Part 135 Single-Pilot Procedures during Taxi Operations, and 120-35, Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation, as amended, should be incorporated in ground training and flight training conducted by air carriers under 14 CFR parts 121 and 135, by training centers under part 142, by pilot schools under part 141, and by all other persons conducting training and evaluation under parts 61 and 91.

369. FLIGHTCREW BASIC INDOCTRINATION TRAINING MODULES.

A. The flight crewmember basic indoctrination curriculum segments must include as many training modules as necessary to ensure appropriate training. Each module outline must provide at least the following:

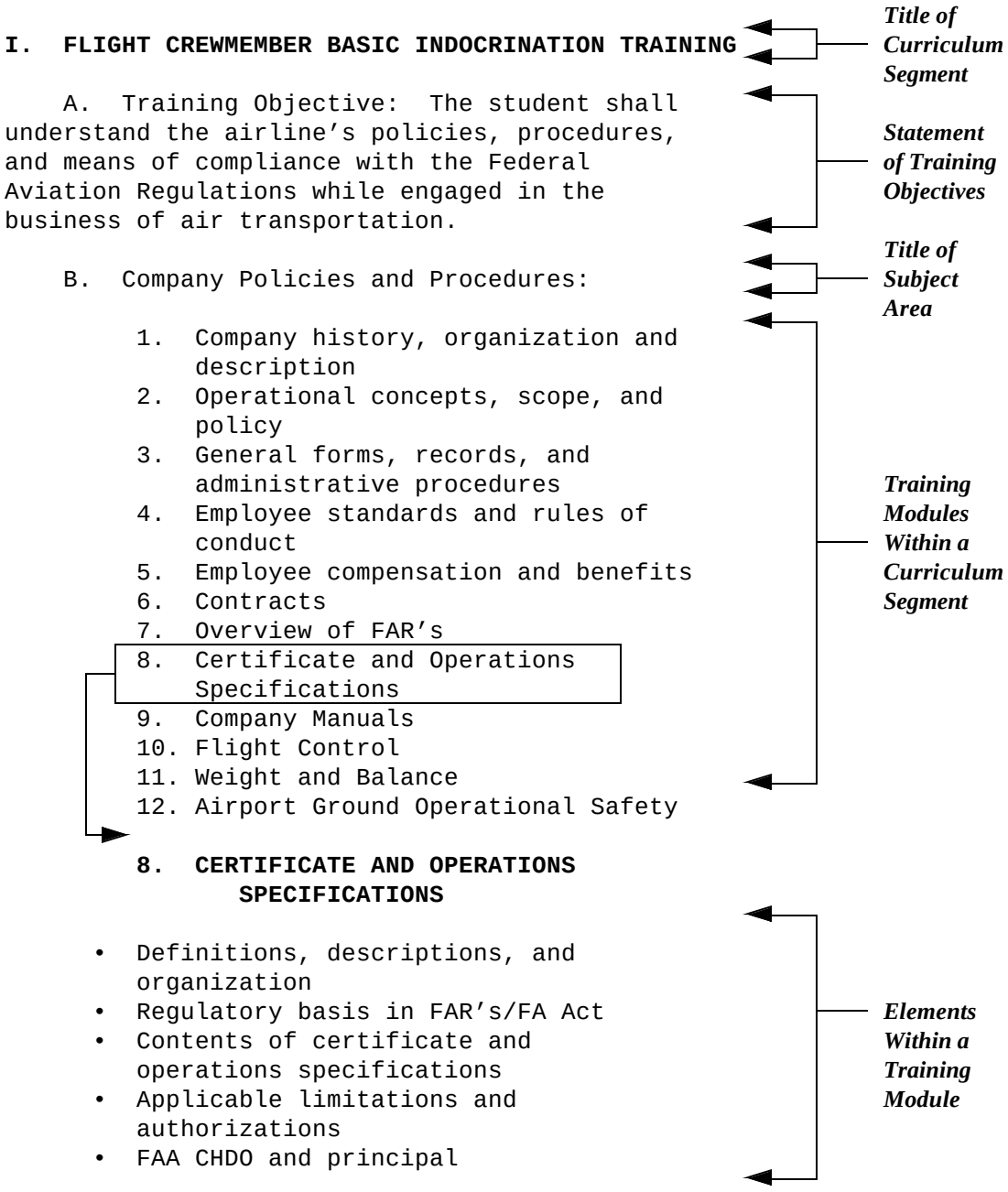
- A descriptive title of the training module
- A list of the related module elements to be presented during instruction on that module

8: CERTIFICATE AND OPERATIONS SPECIFICATIONS

(a) Definitions, describptions, and organization
(b) Regulatory basis in FAR's/FA Act
(c) Content of certificate and specifications
(d) Applicable limitations and authorizations

Elements Within a Training Module

B. The training module outlines must contain sufficient elements to ensure a student will receive training in both operator-specific and airman-specific subject areas to provide a suitable foundation for subsequent "aircraft-specific" curriculum segments. An operator has a certain amount of flexibility in the construction of these training modules. For example, the airman-specific training modules for students with significant experience in Part 121 or Part 135 operations may be less comprehensive than the training modules for students without that experience. This is usually



the case during acquisitions, mergers, or with operators who hire only highly qualified personnel with experience in Part 121 or Part 135 operations.

C. The following example illustrates one of the many acceptable methods in which a basic indoctrination training module could be presented:

D. It is not necessary or desirable to include detailed descriptions of each element within a training module outline. Such detailed descriptions are more appropriate when included in the operator's courseware such as lesson plans. During the approval process, POI's should review lesson plans as necessary to ensure the scope and depth of the courseware is adequate. The following example illustrates the interrelationship of training modules in the flight crewmember basic indoctrination curriculum segment:

371. TRAINING HOURS.

A. FAR 121.415 specifies a minimum of 40 programmed hours of instruction for basic indoctrination train-

- Operational concepts, policies, and kind of operation
- Company forms, records, and administrative procedures
- Employee standards and rules of conduct
- Employee compensation, benefits, and contracts
- Authority and responsibilities of duty position
- Company-required equipment
- Company manual organization, revisions, and employee responsibilities concerning manuals

B. *Appropriate Provisions of the Federal Aviation Regulations.*

- Flight crewmember certification, training, and qualification requirements
- Medical certificates, physical examination, and fitness for duty requirements
- Flight control requirements (dispatch, flight release, or flight-locating)
- Flight duty and rest requirements
- Recordkeeping requirements
- Operational rules in Part 91 and Part 121 or Part 135 (as appropriate) and any other applicable regulations
- Regulatory requirements for company manuals
- Other appropriate regulations such as flightcrew emergency authority, interference with crewmembers, and reporting requirements

C. Contents of Certificate and Operations Specifications.

- Regulatory basis in Part 121 or 135 (as applicable) and Title 49, United States Code (U.S.C.) (formerly the Federal Aviation Act (FA Act) of 1958)
- Definitions, description, and organization of operations specifications
- Limitations and authorizations of operations specifications
- Description of certificate
- Description of FAA certificate holding district office and responsibilities of FAA principal inspectors

379. AIRMAN-SPECIFIC TRAINING MODULES. The "airman-specific" training modules of the basic indoctrination curriculum segment contain training to ensure a student will be able to enter subsequent ground and flight training curriculum segments. These modules address the appropriate portions of the operator's manual and standard practices of airmanship and flight procedures in other documents such as the Airman's Information Manual. The emphasis in airman-specific training is not aircraft-specific. It should relate to the operator's kind of operation and the family or families of aircraft used by the operator. The objective of airman-specific training is to ensure the student has acquired the basic knowledge necessary for Part 121 or Part 135 operations (as applicable). Examples of recommended training modules for the airman-specific subject area follow:

A. Company Flight Control.

- Dispatch, flight release, or flight locating systems and procedures (as applicable)
- Organization, duties, and responsibilities
- Weather and NOTAM information
- Company communications

B. Weight and Balance.

- Definitions (such as zero-fuel weight, moments, and inches of datum)
- General loading procedures and center of gravity computations
- Effects of fuel burn and load shifts in flight
- Weight and balance forms, load manifests, fuel slips, and other applicable documents

C. Aircraft Performance and Airport Analysis.

- Definitions (such as balanced field, VMC, obstruction planes, and maximum endurance)
- Effects of temperature and pressure altitude
- General TERPS criteria (obstacle clearance standards)
- Airport analysis system as appropriate to the type of operation and family or families of aircraft
- Effects of contaminated runways

D. Meteorology.

- Basic weather definitions (such as forecasts, reports, and symbols)
- Temperature, pressure, and winds
- Atmosphere moisture and clouds
- Air masses and fronts
- Thunderstorms, icing, and windshear

E. Navigation.

- Definitions (such as Class I, Class II navigation)
- Basic navigational instruments
- Dead reckoning and pilotage concepts and procedures
- Navigational aids
- VHF, VLF, and self-contained systems (as applicable)

F. Airspace and ATC Procedures.

- Definitions (such as precision approaches, airways, and ATIS)
- Description of airspace
- Navigation performance and separation standards
- Controller and pilot responsibilities
- ATC communications
- Air traffic flow control
- Wake tubulence recognition and avoidance

NOTE: There have been several accidents and incidents related to Boeing 757 (B-757) wake turbulence. Although the B-757 does not fit into the "heavy" classification of aircraft, it is being treated as such until a new classification determination is made. Each of these events occurred when the trailing aircraft was not being provided IFR traffic separation. To reduce the possibility of such occurrences, ATC started issuing ``Wake Turbulence Cautionary Advisories'' to VFR aircraft following B-757 aircraft. The FAA is studying wake turbulence to include pilot awareness, avoidance, and aircraft-specific procedures for a wake turbulence encounter. Pilots and operators should review information, procedures, and guidance contained in chapter 7, section 3, of the AIM and in Advisory Circular (AC) 90-23, ``Aircraft Wake Turbulence.'' The FAA is not aware of any wake turbulence accidents occurring when pilots have observed AIM-recommended procedures or have utilized IFR traffic separation. Therefore, pilots should be encouraged to maintain the prescribed wake turbulence separation distances. Since wake turbulence is not unique to the B-757, all pilots should exercise caution when operating behind and/or below all heavier aircraft.

G. En Route and Terminal Area Charting and Flight Planning.

- Terminology of charting services (such as Jeppesen or NOAA)
- Takeoff minimums, landing minimums, and alternate requirements
- General company flight planning procedures
- Flight service and international procedures (as applicable)
- Airport diagrams
- Airport Ground Operational Safety (AC 120-74 and AC 91-73, as amended)

H. Concepts of Instrument Procedures.

- Definitions (such as MDA, HAA, HAT, DH, CAT II ILS, and NOPT)
- Holding patterns, procedure turns
- Precision approaches (such as CAT I, CAT II, and CAT III)
- Nonprecision approaches
- Circling, visual, and contact approaches (as applicable)

381. EVALUATION OF FLIGHTCREW BASIC INDOCTRINATION CURRICULUM SEGMENT OUTLINES FOR INITIAL APPROVAL. When evaluating a basic indoctrination curriculum segment, inspectors must determine that the operator-specific and airman-specific subject areas are properly addressed. Operator-specific and airman-specific elements may be outlined in the same training module. Inspectors must determine that basic indoctrination curriculum segments meet the following two requirements:

A. The operator-specific training must contain information of sufficient quality, scope, and depth to ensure the crewmember fully understands the duties and responsibilities applicable to the duty position. Training modules must also provide enough information to acquaint the student with the operator's policies, procedures, and practices.

B. Airman-specific modules must address appropriate portions of the certificate holder's operating

TABLE 3.2.3.2.
FLIGHTCREW BASIC INDOCTRINATION TRAINING JOB AID
SUBJECT AREA 1: OPERATOR-SPECIFIC TRAINING

TRAINING SUBJECTS	EVALUATION CRITERIA				
	ADEQUACY OF ELE-MENTS/ EVENTS	ADEQUACY OF COURSEWEAR	TRAINING AIDS AND FACILITIES		
Company History, Organization, and Description					
Operational Concepts, Scope, and Policy					
General Forms, Records, and Administrative Procedures					
Employee Standards and Rules of Conduct					
Employee Compensation and Benefits					
Contracts					
Overview of FAR					
Certificate and Operations Specifications					
Company Manuals					
Flight Control					
Weight and Balance					
Airport Ground Operational Safety					

TABLE 3.2.6.4. FLIGHT TRAINING
PIC/SIC INITIAL NEW-HIRE AND INITIAL EQUIPMENT FLIGHT TRAINING:
TRANSPORT AND COMMUTER CATEGORY AIRPLANES
(FRONT)

FLIGHT PHASE	TRAINING EVENT	LEVEL OF FLT TRNG DEVICE				LEVEL OF FLT SIM				ACFT
		4	5	6	7	A	B	C	D	
						VIS	PH I	PH II	PH III	
PREPARATION	Visual Inspection (For aircraft with F/E, use of pictorial display authorized)									X
	Prestart Procedures	A	A	X	X	X	X	X	X	X
	Performance Limitations	X	X	X	X	X	X	X	X	X
SURFACE OPERATION	Pushback			X	X	X	X	X	X	X
	[ ] Powerback Taxi							X	X	X
	Starting	A	A	X	X	X	X	X	X	X
	Taxi/Runway Operations							X	X	X
	Pretakeoff Checks	A	A	X	X	X	X	X	X	X
TAKEOFF	Normal **M**								X	X
	Crosswind								X	X
	Rejected **M**			X	X	X	X	X	X	X
	Power Failure V_1 **M**					X	X	X	X	X
	Powerplant Failure During Second Segment #					X	X	X	X	X
	[ ] Lower than Standard Minimum					X	X	X	X	X
CLIMB	Normal			X	X	X	X	X	X	X
	One-engine Inoperative During Climb to En Route Altitude #					X	X	X	X	X
EN ROUTE	Steep Turns **PIC**			X	X	X	X	X	X	X
	Approaches to Stalls: **M** (Takeoff Config.) (En Route Config.) (Landing Config.) X* Only if stall warning/stall avoidance provides first first stall indication			X*	X*	X	X	X	X	X
	Inflight Powerplant Shutdown	A	A	X	X	X	X	X	X	X
	Inflight Powerplant Restart		A	X	X	X	X	X	X	X
	High Speed Handling Characteristics					X	X	X	X	X
DESCENT	Normal			X	X	X	X	X	X	X
	Maximum Rate					X	X	X	X	X
APPROACHES	**VFR Procedures M** Visual Approach								X	X
	With 50% Loss of Power on One-side **PIC M** (2 engines inoperative on 3-engine airplanes) A* (May be accomplished in levels A, B, or C provided one engine inoperative training is conducted in level D or the aircraft)					A*	A*	A*	X	X
	With Slat/Flap Malfunction **PIC M**					X	X	X	X	X
	IFR Precision Approaches M ILS/Normal								X	X
	ILS/One-Engine Inoperative								X	X
	[ ] MLS/Normal								X	X
	[ ] MLS/One-Engine Inoperative								X	X
	[ ] PAR/Normal					X	X	X	X	X
	[ ] PAR/One-Engine Inoperative #					X	X	X	X	X
	IFR Nonprecision Approaches M NDB/Normal			A*	A*	X	X	X	X	X
	VOR/Normal A* At least one nonprecision approach must be accomplished in a level A or higher simulator or the aircraft			A*	A*	X	X	X	X	X
	Nonprecision Approach One Engine Inoperative #					X	X	X	X	X
	[ ] LOC Backcourse Procedures		A	X	X	X	X	X	X	X
	[ ] SDF/LDA Procedures		A	X	X	X	X	X	X	X
	[ ] ASR Procedures		A	X	X	X	X	X	X	X
	[ ] RNAV Procedures		A	X	X	X	X	X	X	X
	[ ] LORAN C Procedures		A	X	X	X	X	X	X	X

FIGURE 3.2.7.1.
PILOT PROFICIENCY CHECK (PART 121, APPENDIX F)

ORAL OR WRITTEN EQUIPMENT EXAM ..... Both

GROUND OPERATIONS

- Preflight inspection ..... Both
- Taxiing/Runway Operations ..... Both 1
- Powerplant checks ..... Both 1

TAKEOFFS

- Normal ..... Both
- Instrument ..... Both
- Crosswind ..... Both
- With powerplant failure ..... Both
- Rejected takeoff Both*1

INSTRUMENT PROCEDURES

- Area departure ..... Both*
- Area arrival ..... Both*
- Holding ..... Both*
- Normal ILS approach ..... Both
- Engine-out ILS ..... Both
- Coupled ILS approach Both1
- Nonprecision approach ..... Both
- Second nonprecision approach ..... Both
- Missed approach from an ILS ..... Both
- Second missed approach ..... PIC
- Circling approach Both*2

IN-FLIGHT MANEUVERS

- Steep turns ..... PIC*
- Specific flight characteristics Both5
- Approaches to stalls ..... Both*
- Powerplant failure ..... Both
- 2-engine inoperative approach ..... Both
  (3- and 4-engine aircraft)
- Normal landing ..... Both
- Landing from an ILS ..... Both
- Crosswind landing ..... Both
- Landing with engine-out ..... Both
- Landing from circling approach Both*2

FIGURE 3.2.7.3.
PART 135 CHECKING MODULES
AIRPLANES

EVENTS	VFR COMP.	IFR COMP.	INST. PROF.	NOTES
WRITTEN OR ORAL TEST				
FAR 135.297			P	
FAR 135.293	B	B		
GROUND OPERATIONS				
Preflight Inspection	B	B	P	#
Start Procedures	B	B	P	#
Taxiing/Runway Operations	B	B	P	#
Pretakeoff checks	B	B	P	#
TAKEOFF AND DEPARTURES				
Normal	B	B	P	
Crosswind	B	B	P	1
Instrument		P	P	2
With powerplant failure	B	B	P	ME Only
Rejected takeoff	P	P	P	3, ME Only
Short field	P	P	P **	SE Only
Area departure			P *	
IN-FLIGHT MANEUVERS				
Steep turns	P **	P **	P **	
Approaches to stalls	B	B	P	10
Powerplant failure	P	P	P	
2-engine inop. approach	P	P	P	3 & 4 Eng. Aircraft
INSTRUMENT PROCEDURES				
Area arrival			P *	
Holding			P **	
Normal ILS approach		L	P	4, 8
Engine-out ILS		P	P	8, ME Only
Coupled approach		P	P	4, 8
Nonprecision approach		B	P	11
Second nonprecision appraoch			P	11
Missed approach from an ILS			P	
Second missed approach			P	
Circling approach			P	13

operator adopts a modular approach for recurrent training, all such training elements and events must be grouped into specified modules to be administered and recorded as a recurrent training curriculum segment. When an operator does not adopt a modular training approach, records must be kept of each airman's accomplishment for each element of required training and each element or event must be scheduled separately. POI's should use the following direction and guidance when reviewing an operator's recurrent training and checking events.

A. *Training/Checking Month.* The training/checking month is that calendar month during which a flight crewmember is due to receive recurrent training. Calendar month means the first day through the last day of a particular month. PIC's conducting Part 121 operations or Part 135 IFR are also due a recurrent training or checking module 6 months after the training/checking month.

(1) *Designating the Training/Checking Month.* When a crewmember completes an initial, transition, upgrade, or requalification training program within a 3-calendar month period, the month in which the qualification curriculum segment is completed is then considered to be that crewmember's training/checking month. If the training has been completed within the 3-month period, the operator may make a single record of the entire curriculum without noting when individual events occurred. Subsequent scheduling of recurrent training may then be based on the training/checking month. If the time taken to complete initial, upgrade, transition, or requalification training has exceeded 3-calendar months, however, the operator must record and schedule the accomplishment of recurring events separately.

NOTE: The requirement that PIC's of turbojet aircraft must accumulate 100 hours in command is not considered for the purpose of establishing the 3-month period.

(2) *Adjusting the Training/Checking Month*. Operators may adjust a crewmember's training/checking month by administering a period of recurrent training and qualification. When training is accomplished before it is due, operators must ensure that all requirements are accomplished within the 12 calendar months allowed by the regulations. Requirements are sometimes omitted when an airman completes an initial-equipment, transition, or upgrade training curriculum at some time other than the previous eligibility period. When a training/checking month is adjusted, the reason for the adjustment must be noted in the airman's record. A coding system for this adjustment may be used for computerized recordkeeping systems.

(3) *Requalification.* When an airman's qualification has lapsed due to not completing recurrent training or checking requirements, that airman must complete requalification training (see section 11 of this chapter). When an airman is entered into requalification training, a record of the reason for entry must be placed in the airman's record. The operator may establish a new training/checking month or retain the airman's original training/checking month after the airman successfully completes the requalification training.

B. *Eligibility Period.* The eligibility period is a 3-month period comprised of the calendar month before the month in which training is due, the month in which training is due, and the calendar month after the month in which training is due. In both Part 121 and Part 135 operations, required recurrent training or checking that is completed any time during the eligibility period is considered to have been completed during the month in which training is due. A crewmember who has not completed all recurrent training or checking requirements in the month due may be scheduled and may serve in revenue service during the remainder of the eligibility period, but not thereafter. A flight crewmember who fails to complete all required training and qualification modules within the eligibility period must complete requalification training before serving in revenue operations.

605. RECURRENT AIRCRAFT GROUND TRAINING CURRICULUM SEGMENTS. POI's must ensure that an operator's recurrent aircraft ground training consists of instruction in three subject areas: general operational subjects (including airport ground operational safety, per AC 120-74 and AC 91-73), aircraft systems, and systems integration training. Differences and special operations training (such as windshear) may also be required. 14 CFR part 121, § 121.427 and part 135, § 135.351 both require that recurrent aircraft ground training must contain instruction in the same subjects required for initial training. This requirement does not mean that each element of initial training must be reaccomplished during each period of recurrent training. It means that pertinent subject areas must be reaccomplished often enough to ensure that crewmembers remain competent in the performance of their assigned duties. The regulations also require that certain subjects, such as emergency training be covered each year.

A. *Training Hours*. Ground training hours must be specified in the recurrent training curriculum segment. The number of training hours required for various aircraft and

the approval of training hours are discussed in section 5, paragraph 433 of this chapter. Operators may be required, however, to conduct more than the minimum number of hours specified by the regulations to achieve the training objective. FAR 121.427(a)(2) and FAR 135.351(a)(2) require that training in all subject elements which are required in initial aircraft ground training must be given "as necessary" in recurrent training. A recommended means of constructing recurrent training segments is to focus on one or two training modules within each subject area. During recurrent training, additional training modules may be accomplished at subsequent cycles of training until all of the areas of initial training have been completely reviewed. A complete cycle should not exceed 3 years.

B. *Differences and Special Operations Training*. When either aircraft differences training or special operations training is applicable, it must be included in recurrent training curriculums. This training may either be presented as a separate and distinct curriculum segment or the training may be integrated into other modules. An effective way for an operator to conduct differences training is to discuss the differences in individual systems and procedures as an integral part of the training. When special operations are conducted, special curriculum modules are normally required as opposed to integrating the training into other segments. Recurrent training should also include updated information on equipment, operational practices and procedures, information from accidents and incidents, and on areas which require emphasis as a result of line and proficiency check evalutions.

607. WRITTEN OR ORAL TESTING. POI's must ensure that the following written or oral testing requirements are in the operator's recurrent training curriculum.

A. Written or oral testing is a required module of the recurrent flight checks for both Part 121 and Part 135 curriculums. This testing may either be conducted in conjunction with the flight check module or separately. The testing must be accomplished within the airman's eligibility period (see previous paragraph 603.B).

NOTE: Although operators may use computer-based instruction, programmed instruction, or "open book" instruction and testing to obtain a reduction in ground training hours, this training/checking is not intended to be a substitute for the testing required in the qualification segment.

B. *Composition of Written and Oral Test Modules.* The oral or written test module must contain three distinct sets of test elements.

(1) The first set of test elements is general in nature and covers the applicable provisions of: Parts 61, 63, 91, 121, and 135; the operator's OpSpecs; and the operations manual. This segment only has to be completed once during each qualification cycle and does not need to be repeated if the crewmember is qualifying on more than one aircraft.

(2) The second set of test elements includes aircraft systems, operating procedures, weight and balance, airport ground operational safety, and performance data relative to each specific make and model of aircraft. This segment of the test module must be completed on each make and model aircraft on which the airman is to serve. When the airman is qualifying to serve on more than one variation of an aircraft, a written or oral differences test segment is also required.

(3) The third set of test elements consists of special or unique operations. Special operations testing may be included in the general or aircraft specific segments, as appropriate.

609. RECURRENT GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS. Both Part 121 and Part 135 operators are required to conduct recurrent general emergency training. This curriculum segment is separate from the aircraft ground recurrent training curriculum segment. Recurrent general emergency training consists of emergency situation and emergency drill training modules. Section 4 of this chapter contains additional direction and guidance on the scope and content of general emergency training modules.

A. Recurrent general emergency training for Part 121 consists of all the items required by FAR 121.417. Recurrent general emergency training for Part 135 consists of all the items required by FAR 135.331. This training must be conducted every 12 months, typically at the same time recurrent aircraft ground training is conducted.

B. The emergency situation training modules that are part of the recurrent general training curriculum segment must include at least the following elements:

- Rapid depressurization (if applicable)
- Fire in flight (or on the surface) and smoke control procedures

SECTION 11. FLIGHTCREW REQUALIFICATION TRAINING CURRICULUMS

617. GENERAL. This section contains information, direction, and guidance to be used by POI's and other inspectors for the review and approval of requalification training curriculums. In this section a formal definition of requalification training is given; a definition is not included in the FAR's. Since crewmembers qualified for operations in revenue service under Parts 121 and 135 do sometimes lose their qualification, it is useful for the operators to have a definition of requalification training, including the reasons for it and its objectives.

A. *Definition.* For the purposes of this handbook, requalification training is defined as that category of training conducted specifically to restore a previously qualified crewmember to a qualified status. The operator's requalification training curriculum must contain the specific duty position and aircraft type for the applicable operations (in some cases, aircraft family for certain Part 135 operations). To be eligible for training in a requalification curriculum, a crewmember must have been previously qualified in that aircraft type and duty position and have subsequently lost that qualification.

B. *Reasons for Crewmembers Losing Qualification.* A crewmember may lose qualification status and become "unqualified" for any of the following reasons: failure to accomplish all of the recency of experience requirements required by the regulations (noncurrent); failure to complete recurrent training within the eligibility period established by the regulations (becoming overdue); or failure of a checkride (becoming disqualified). A crewmember may be simultaneously qualified in one airplane or duty position and unqualified in another.

NOTE: If a crewmember fails a checkride in one airplane, that crewmember cannot fly in revenue service in another airplane until the crewmember's qualification has been re-established.

C. *Objectives of Requalification Training.* Crewmembers meet requalification training objectives by completing a combination of aircraft ground, flight, and qualification curriculum segments, as applicable. The training and qualification curriculum segments needed for a crewmember's requalification are determined by the reasons for, and the length of, the crewmember's unqualified status. A crewmember's requalification after a loss of currency may be as simple as re-accomplishing the currency events in which the crewmember is delinquent, such as landings. Requalification, however, may be as complex as the crewmember having to accomplish the events in the initial equipment category of training when the crewmember has been unqualified for an extended period of time. Remedial training after disqualification should be tailored to the specific case.

D. Airport Ground Operational Safety. Training in runway safety and the specific standard operating procedures (SOP) contained in AC 120-74, Parts 91, 121, 125, and 135 Flightcrew Procedures during Taxi Operations, and AC 91-73, Part 91 and Part 135 Single-Pilot Procedures during Taxi Operations, as amended, should be incorporated inrequalification training conducted by air carriers under 14 CFR parts 121 and 135, by training centers under part 142, by pilot schools under part 141, and by all other persons conducting training and evaluation under parts 61 and 91.

619. RE-ESTABLISHING LANDING CURRENCY OF PART 121 PILOTS. FAR 121.439(a) requires that each pilot operating under Part 121 must have made at least three takeoffs and three landings in the airplane type in which the pilot is to serve in the previous 90-day period. A pilot who fails to meet this requirement is unqualified to serve in Part 121 operations. In such a case, the qualification curriculum segment for requalification training consists of either an experience module or a basic qualification module (proficiency check) in accordance with Appendix F of Part 121, and section 7 of this chapter. Aircraft ground training curriculum segments and flight training curriculum segments are usually not required. POI's must ensure that the operator's training modules for requalification meet the requirements that follow.

A. A recency-of-experience qualification module may be used which contains at least three takeoffs, three landings, and the following:

- A takeoff and landing with a simulated failure of the most critical powerplant
- A landing from an ILS approach to the lowest ILS minimums the pilot is authorized in revenue operations
- A landing to a full stop

B. The recency-of-experience qualification module may be accomplished in one of the following devices:

CHAPTER 3. CHECK AIRMAN, INSTRUCTOR, AND SUPERVISOR PROGRAMS

SECTION 3. CHECK AIRMAN AND AIR TRANSPORTATION FLIGHT INSTRUCTOR TRAINING

713. GENERAL. This section provides guidance concerning the training requirements for check airmen and air transportation flight instructors.

A. *Candidates: Selection of Instructors and Nomination of Check Airmen*. The operator selects instructors and submits the selections for re view by the principal operations inspector (POI). The operator nominates check airman and submits the nominees for approval by the POI. Since the experience levels of pilots and flight engineers vary among operators, it is impractical to specify minimum experience levels for candidates. In some cases, such as cases involving new operators, candidates may have relatively little flight experience. Regardless of experience levels, however, candidates must be able to demonstrate high levels of knowledge and skill in the applicable job functions. POI's must ensure that adequate training for check airmen and air transportation flight instructors is completed and documented in the applicable records.

B. *Single Pilot-In-Command (PIC) Operators.* Operators using aircraft with a single PIC present questions about training that is not addressed in regulations. For such operators, a check airman who performs competency and line checks may qualify and maintain currency by one of three methods: (1) the check airman may receive competency and line checks from a check airman from another operator or training center approved by the operator's POI; (2) if a level B, C, or D flight simulator that replicates the aircraft being used is available and is approved for use in that operator's training program, the check airman may receive competency checks in that simulator from a check airman from another operator or training center approved by the operator's POI; or, (3) the check airman may receive competency and line checks from an Federal Aviation Administration (FAA) inspector.

715. TRAINING FOR FLIGHT INSTRUCTORS AND CHECK AIRMEN. To ensure that its flight instructor or proficiency check airmen are adequately trained, each operator's approved initial flight instructor training program and initial check airman training program shall include the training specified in Federal Aviation Regulations (FAR) §§ 121.411, 121.413 and Appendix H or FAR §§ 135.337 and 135.339, as applicable. Check airman and air transportation flight instructor candidates must satisfactorily complete the operator's approved initial, transition, or upgrade training programs for the desired aircraft and duty position. In addition, instructors must complete the operator's instructor training; check airmen must complete the operator's instructor and check airman training. Flight instructors and check airmen need not repeat curriculum segments in transition training that apply to more than one aircraft or duty position when they have completed those curriculum segments satisfactorily in previous training.

A. *Ground Training -*

- Pilot flight instructors (including flight instructors using simulators)
- Proficiency check airmen (including check airmen using simulators).
- Line check airmen.

Ground training for air transportation pilot flight instructors, pilot proficiency check airmen and line check airmen shall include the following topics:

- Fundamental principles of the teaching-learning process
- Teaching methods and procedures
- Instructor-student relationships

NOTE: FAR §§ 121.413(b) and 135.339(b) provide that these topics need not be included when the candidate holds a Flight Instructor Certificate (CFI) issued by the FAA. These regulations do not relieve the operator of the responsibility for ensuring that instructors and check airmen remain proficient in these areas.

- Regulatory and administrative functions of instructors and check airman, as appropriate

- Applicable FAR
- The operator's policies and procedures
- Methods, procedures, and techniques for conducting required checks
- Seat-dependent tasks for the specific aircraft
- Analysis of airman performance including identification of improper or insufficient training
- Crew resource management (CRM) concepts and vocabulary
- Airport Ground Operational Safety (AC 91-73 and AC 120-74, as amended)
- Appropriate corrective actions for unsatisfactory performance in training or evaluation
- Guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate
- The consequences of improper or untimely safety measures

B. Flight Training -

- Flight instructors - Aircraft - Simulators
- Proficiency check airmen - Aircraft - Simulators
- Line check airmen

Flight training shall include the following:

- Enough flight training and practice in conducting training (and flight checks for check airmen) from the left and right pilot seats using the required normal, abnormal, and emergency procedures to ensure the individual's competency in conducting the required flight training (and pilot flight checks if applicable). For an air transportation flight instructor-aircraft and a proficiency check pilot-aircraft, training and practice in the takeoff and landing events of the operator's approved training program must be conducted in an aircraft; the remainder of the training may be conducted in a simulator. For an air transportation flight instructor-simulator only and a proficiency check airman-simulator only, this training may be completed entirely in a flight simulator
- For proficiency check airmen/line check airman-aircraft training in flight in an aircraft supervising normal takeoffs and landings from either pilot seat. The operator shall ensure that the check airman candidate is thoroughly trained in second-in-command (SIC) functions and capable of accomplishing them competently while supervising and evaluating a new captain
- Guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate
- The consequences of improper or untimely safety measures

C. *Flight Training - Flight Engineer Instructors.* Flight training shall include the following:

- Enough flight training and practice to ensure the instructor's competency. Normal, abnormal, and emergency procedures shall be covered. For a flight engineer instructor - all checks, flight training may be completed entirely in a flight simulator device
- Guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate
- Consequences of improper or untimely safety measures

D. *Credit for Check Airman Training - Multiple Operators*. A POI may approve a check airman to serve more than one operator. Equivalent training completed with one operator may be credited toward the check airman training requirement for another operator, in the discretion of the POI. Creditable training may include parts of ground training and flight training. For example, a check airman might be eligible for training credit under the following conditions:

- Employed by a training center
- Regularly performing proficiency or competency checks
- Using the same procedures for all operators